PREVENTING ALZHEIMER'S DISEASE: Myth or Reality?

By Mark Sager, M.D., Director of the Wisconsin Alzheimer Institute, University of Wisconsin-Madison Medical School

The number of persons affected by Alzheimer's disease (AD) in Wisconsin is expected to increase by 58% over the next 25 years. This rapid increase in the number of persons with AD is the result of an aging baby boom population and increased longevity and will have profound implications for our society.

One way to reduce the economic and social costs of this disease is to delay or prevent its onset. Estimates are that a delay in the onset of AD by ten years would lower the number of affected persons from an anticipated 14 million persons to only 3.5 million by 2040. Even a one-year delay would decrease the number of affected persons by 210,000 and result in $10 billion annual savings within ten years.

Current research suggests that preventing AD is not a myth and may be a reality in the near future. Scientists have learned that AD is a lifelong disorder and develops slowly over many years during which affected persons are asymptomatic. New technologies are allowing scientists to identify metabolic and structural changes that are typical for AD in the brains of middle aged persons who have no symptoms of the disorder. We have learned that a person's risk of developing symptoms of AD is most likely the result of genetic, environmental, social, economic and lifestyle factors that interact to determine the age of onset of the disease. As a result, a person's risk of developing symptoms of AD is potentially modifiable through environmental or lifestyle changes or through external

interventions. There is increasing evidence that a variety of medications (e.g., estrogen) and substances (e.g., vitamin E) may reduce a person's risk of AD. However, our knowledge about preventing AD is limited because we are only beginning to study it.

The Wisconsin Alzheimer's Institute has recently received a grant from the Northwestern Mutual Foundation in Milwaukee to develop a research program dedicated to identifying factors which may delay or prevent the onset of AD. This research will involve multiple collaborators within the University and from around Wisconsin and will enroll children of persons with AD for clinical studies. Although having a parent with AD does not guarantee that one will develop the disorder and many persons develop AD who did not have an affected parent, children of persons with AD are at an increased risk and most likely to benefit from the research.

What can you do right now to reduce your risk of AD? First, the old adage, "Use it or lose it," is true. Those persons who remain mentally and socially active have a reduced risk of developing AD. Second, maintain your "brain health" by avoiding toxins such as alcohol, which can damage brain cells, and by reducing your risk of stroke. Risk factors for stroke that can be modified to reduce your risk of AD include hypertension, diabetes, high cholesterol, physical inactivity, smoking and heavy alcohol use. Reducing your risk of stroke will help preserve your mental capacity and make the development of AD symptoms less likely.

Preventing AD is no longer wishful thinking, and many scientists are working to make prevention a reality.